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Estonia is one of the smallest countries in Europe, but despite its size it has become the tech titan that the EU has been seeking to generate growth in times of crisis. The country has a population of 1,340,415 citizens and one of the world's most advanced e-governments, in addition to an e-health and cybersecurity system that many countries envy.

But, how Estonia become this technological giant? Twenty years ago, the country broke free from the USSR and decided to invest in information technology. In addition, it has three things in its favour: political leadership, the success of Skype, and its culture.

First of all, the leadership in the country has always been consistent and trendy. The country's president, Toomas Hendrik Ilves, could be consider a geek, due to the 27-inch iMac on his desk, his MacBook Air and his iPad2.

Since 1991, Estonia adopted a flat tax, something that, attached to the computerization, has helped build support for e-government and citizens can do their taxes quickly and easy. The country has also adopted i-voting, an e-health system and introduced the option to sign documents using an electronic signature.

As for Skype, while the company was founded by Sweden and Denmark, it was built by Estonian engineers. This example of success makes entrepreneurs to believe that creating start-ups is a viable business and to work hard on it worth.

However, according to experts, the crucial element is the culture, forged during the years of the Soviet occupation. Some people in Estonia still maintain the traditions of Soviet system, when every person had to build the things with their hands to survive, generating a "can-do" attitude that is on today people's psychology.

Because years ago they decided to push the country forward and be more than the tiny nation in the Baltic region, now Estonians have an e-society which involves government, business and citizens.

Everything started with the project Tiger Leap in 1996, which is still active until this day. It allowed educational institutes to have access to computers, created the national ID Card project and introduced online bank services, while entrepreneurs continue developing innovations like M-Parking, a system that, since 2000, lets drivers pay for their city parking using their mobile phones.

Estonian administration works faster and it's more transparent due to the e-solutions that have been applied during the last decades. Because there are no barriers between officialdom and the public, citizens can consult, for example, what their parliamentarians are doing with draft legislations.

To give more examples, in 2005 Estonia became the first nation in history to offer internet voting in a nationwide election. The i-voting system allows any citizen to vote at their convenience, even if they are outside the country. These facilities make the process easy and increases voter attendance.

Regarding to e-health, e-solutions such as the Electronic Health Registry, which combines patient's data from different sources and allows people to consult their medical report; and the e-Prescription system, simplifies actions that for most European citizens are an effort and a waste of time.

Besides, Estonia has revolutionized the way to teach and learn with the e-School. Parents, teachers and students have access to the same platform, a 24-hour online classroom where they can check homework, marks and everything related with the studies.

All these technological advances had created the image of a start-up nation, but in 2007 Estonia hit the international headlines by being the first nation in history to successfully defend itself against a large-scale cyberattack. In the spring of 2007, several distributed denial of service (DDoS) blocked websites and paralyzed the country's entire internet infrastructure. Estonian organizations, including Estonian parliament, banks, ministries, newspapers and broadcasters

were affected, and the government was convinced of Russia's involvement in the action.

The alarms appeared, but the country supported the attacks and the longest downtime for a bank's website, for example, was one and a half hours. Since then Tallinn has become the home of NATO's Cyber Defense Centre.

To be a small nation has its benefits. Cyberattacks can be solved quickly and local start-ups can be supported, making their ideas international and famous. However, this is not enough to create employment and growth in the country, because, paradoxically, Estonia is still one of the European Union's poorest nations. Its gross domestic product per capita is €13,194, half that of Sweden (€27,039); and its unemployment remains at 16.8% in 2010.

Estonian engineers and entrepreneurs have sold themselves as a start-up nation, but what is needed now is to turn these start-ups into real and big companies. Skype is an example of European business that obtained international recognition and, after eight years of success, Microsoft bought it for \$8,5bn.

Over 40 countries around the world are using Estonian e-solutions, meaning that the country has the potential and doesn't need a tech giant to buy its ideas. According to several start-up creators, what Estonia needs now is more support and an European co-operation.

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